Laser Additive Manufacturing Facility

Sintering is a method in which powders are used to create solid objects. Laser sintering is an additive layer manufacturing technology which uses a laser to fuse particles of powder into a desired shape. To accelerate the development and transition of new technologies for the Warfighter, ARDEC has established the Laser Additive Manufacturing (LAM) Facility capable of producing 3-D printed metal and polymer components. The facility enables the fast, flexible, and cost effective production of components or products from computer aided design (CAD) models.

The LAM Facility is jointly operated by the Weapons and Software Engineering Center's (WSEC) Armament Software Engineering Center and the Munitions Engineering Technology Center's (METC) Energetics, Warheads and Manufacturing Directorate.

The LAM Facility produces components designed in a 3-D Model Based Enterprise System, which achieves design optimization through CAD interoperability, intelligent manufacturing, network centric digital master files and multi-site coordination.

Equipment

EOSINT M270

Produces additive layer manufacturing of metal components using directed metal laser sintering (DLMS) by fusing metal powder into a solid part by melting it using a focused laser.

- 9.85 in x 9.85 in x 9.85 in build volume
- Tolerances, ±0.0008in to ±0.004 in
- Available materials include
  - Stainless steel
  - Maraging (Tool) Steel
  - Aluminum (AlSi10Mg)
  - Titanium, Ti6Al4V
  - Cobalt Chrome-Molybdenum
  - Inconel 625
  - Inconel 718

EOSINT P395

Produces fully functional plastic products for use in product development or manufacturing. The system can produce components without the need for support structures enabling part within part construction.

- 13.4 in x 13.4 in x 24.4 in build volume
- Tolerances, ± 0.002 in to ± 0.02 in
- Available materials include
  - Nylon 12
  - Aluminum filled Nylon 12 (Alumide)
  - Carbon Fiber Filled Nylon 12
  - Glass-filled Nylon 12
  - Fire retardant Nylon 12
  - Polystyrene (investment casting)
  - Nylon 11

Point of Contact

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